



POWER TO GO® INSTRUCTION MANUAL



Catalog Number CPI20XB

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**TO REDUCE THE RISK OF INJURY, THE USER MUST READ
AND UNDERSTAND THE INSTRUCTION MANUAL**

SAVE THIS MANUAL FOR FUTURE REFERENCE.


Cat. # CPI20XB Form # 90517191

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Printed in China

GENERAL SAFETY WARNINGS AND INSTRUCTIONS FOR ALL APPLIANCES

READ ALL INSTRUCTIONS

 **WARNING:** Read and understand all instructions before operating product. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

- **AVOID DANGEROUS ENVIRONMENT.** Don't use appliances in damp or wet locations. Don't use appliances in the rain.
- **KEEP CHILDREN AWAY.** All visitors should be kept at a distance from work area.
- **STORE IDLE APPLIANCES INDOORS.** When not in use, appliances should be stored indoors in dry, and high or locked-up place – out of reach of children.
- **USE RIGHT APPLIANCE.** Do not use the appliance for any job except that for which it is intended.
- **DRESS PROPERLY.** Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and substantial, non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
- **USE SAFETY GLASSES AND OTHER SAFETY EQUIPMENT.** Use safety goggles or safety glasses with side shields, complying with applicable safety standards and, when needed, a face shield. Also use face or dust mask if operation is dusty. This applies to all persons in the work area. Also use a hard hat, hearing protection, gloves, safety shoes and dust collection systems when specified or required. Safety glasses or the like are available at extra cost at your local dealer or Black & Decker Service Center.
- **DON'T ABUSE CORD.** Never carry appliance by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
- **DON'T OVERREACH.** Keep proper footing and balance at all times.
- **DISCONNECT APPLIANCES.** Disconnect the appliance from the power supply when not in use, before servicing, and when changing accessories such as blades and the like.
- **AVOID UNINTENTIONAL STARTING.** Don't carry plugged-in appliance with finger on switch. Be sure switch is off when plugging in.
- **GROUND FAULT CIRCUIT INTERRUPTER (GFCI)** protection should be provided on the circuits or outlets to be used. Receptacles are available having built in GFCI protection and may be used for this measure of safety.
- **USE OF ACCESSORIES AND ATTACHMENTS.** The use of any accessory or attachment not recommended for use with this appliance could be hazardous. Note: Refer to the accessory section of this manual for further details.
- **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.

- **DO NOT OPERATE** portable electric tools near flammable liquids or in gaseous or explosive atmospheres. Certain components in these tools normally spark, and the sparks might ignite fumes.
- **EXTENSION CORDS.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The following table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.
- **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.

Minimum Gage for Cord Sets					
Volts		Total Length of Cord in Feet			
120V		0-25 (0-7,6m)	26-50 (7,6-15,2m)	51-100 (15,2-30,4m)	101-150 (30,4-45,7m)
240V		0-50 (0-15,2m)	51-100 (15,2-30,4m)	101-200 (30,4-60,9m)	201-300 (60,9-91,4m)
Ampere Rating			American Wire Gage		
More Than	Not more Than				
0 -	6	18	16	16	14
6 -	10	18	16	14	12
10 -	12	16	16	14	12
12 -	16	14	12	Not Recommended	

SAFETY GUIDELINES / DEFINITIONS

⚠ DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION: Used without the safety alert symbol indicates potentially hazardous situation which, if not avoided, may result in property damage.

⚠ WARNING: RISK OF UNSAFE OPERATION. When using tools or equipment, basic safety precautions should always be followed to reduce the risk of personal injury. Improper operation, maintenance or modification of tools or equipment could result in serious injury and property damage. There are certain applications for which tools and equipment are designed. Black & Decker strongly recommends that this product NOT be modified and/or used for any application other than for which it was designed. Read and understand all warnings and operating instructions before using any tool or equipment.

SAVE THESE INSTRUCTIONS

THIS MANUAL CONTAINS IMPORTANT SAFETY AND OPERATING INSTRUCTIONS FOR THE POWER TO GO® MODEL CPI20XB.

⚠ WARNING: TO REDUCE THE RISK OF INJURY:

• Follow these instructions and those published by the manufacturer of any equipment you intend to use with this unit. Review cautionary markings on these products.

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING: This product or its power cord contains lead, a chemical known to the State of California to cause cancer and birth defect or other reproductive harm. Wash hands after handling.

⚠ WARNING: SHOCK HAZARD: Do not operate unit with damaged cord or plug; or if the unit has received a sharp blow, been dropped, or otherwise damaged in any way. Do not disassemble the unit; take it to a qualified service technician when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire, and will void warranty.

⚠ WARNING: Keep the POWER TO GO® out of the reach of children and pets. The inverter generates the same potentially lethal AC power as a normal household wall outlet. Treat the outlet with respect!

⚠ WARNING: Use caution when inserting an AC plug into the two-prong AC outlet. The prongs of an AC plug can become bent from misuse. If an AC plug is improperly inserted into the AC outlet, a bent prong can slip outside the inverter and become a shock hazard.

⚠ WARNING: EXPLOSION HAZARD: This equipment employs components that tend to produce arcs or sparks. DO NOT use in compartments containing batteries or flammable materials.

• Use of an attachment not supplied, recommended or sold by manufacturer specifically for use with this unit may result in a risk of electrical shock and injury to persons.

• NEVER submerge this unit in water; do not expose it to rain, snow or use when wet.

• To reduce risk of electric shock, disconnect the unit from any power source before attempting maintenance or cleaning. Turning off controls without disconnecting will not reduce this risk.

⚠ WARNING: FIRE HAZARD: Let the POWER TO GO® cool down to ambient temperature before charging.

• Storing the POWER TO GO® at temperatures over 170° F (77° C) for over two hours may cause damage to battery and possible fire.

⚠ WARNING: TO REDUCE THE RISK OF INJURY, THIS UNIT SHOULD ONLY BE OPERATED BY ADULTS; IT IS NOT FOR USE BY CHILDREN.

⚠ CAUTION: TO REDUCE THE RISK OF INJURY OR PROPERTY DAMAGE:

• Provide adequate ventilation and refrain from placing items on or around the unit during operation. Unit may overheat and thermal shutdown will occur.

- Proper cooling is essential when operating this unit. Do not place it near a heat source or in direct sunlight.
- The inverter may become uncomfortably warm, reaching 165° F (74° C) under extended high power operation. During operation, keep it away from materials that may be affected by high temperatures. Do not operate the CPI20XB in a pocket.
- The cells inside the POWER TO GO® contain toxic substances. Do not use the POWER TO GO® if the casing is broken or if it emits an unusual odor, produces excessive heat, or leaks. Avoid contact with any substance that leaks from the POWER TO GO®. Do not attempt to open the POWER TO GO®. Do not insert any object into the POWER TO GO® or use any device to pry at the casing.
- Do not insert foreign objects into the AC outlet or USB charging port. This may cause unit to short circuit.
- Grip the inverter carefully when inserting or removing an AC plug. Keep your fingers clear of the AC outlet. Ensure that your fingers do not contact the prongs of an AC plug when the plug is partially inside the inverter.
- ⚠ **CAUTION:** Some chargers for small rechargeable batteries can be damaged if connected to the POWER TO GO®. Do not use the POWER TO GO® with the following appliances:
 - a) Small battery-operated appliances like rechargeable flashlights, some rechargeable shavers, and night lights that are plugged directly into an AC receptacle to recharge.
 - b) Battery chargers used in hand power tools. These chargers display a warning label stating that dangerous voltages are present at the charger battery terminals.
- Pull charging cord by plug rather than cord when disconnecting the 120 Volt AC Charging Adapter from the unit.
- Use only the supplied 300 mA 120 Volt AC Charging Adapter to recharge this unit. Contact manufacturer for replacement.
- ALWAYS turn the POWER TO GO® OFF when it is not in use.
- ⚠ **CAUTION:** Do not connect live AC power to the POWER TO GO® outlets. This will damage the inverter, and the damage is not covered by warranty.
- Do not connect any AC load that has its neutral conductor connected to ground to the POWER TO GO® inverter.
- This inverter will not operate high wattage appliances or equipment that produce heat, such as hair driers, microwave ovens and toasters. It only powers up to 20 watts for 5 minutes, or 16 watts continuous.
- This unit has not been tested for use with medical devices.
- Read this Instruction Manual before using this unit.

SAVE THESE INSTRUCTIONS

INTRODUCTION

Thank you for choosing the **CPI20XB POWER TO GO®**. A convenient, easy-to-carry, rechargeable portable power source that supplies energy for 115 volt AC and USB powered personal electronic devices.

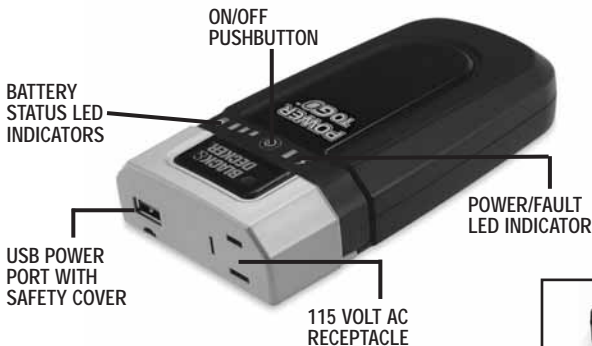
This unit can be used to operate and recharge personal electronics, such as digital/video cameras, MP3 players, cell phones, PDA's, and more. Please read this Instruction Manual carefully before use to ensure optimum performance and to avoid damage to this product or devices that you are using with it.

FEATURES

- Manual ON/OFF Pushbutton
- 20 watts output for 5 minutes or 16 watts continuous
- 5 Volt DC USB Power Port
- Built-in Power/Fault LED Indicator
- Battery Status LED Indicators
- Rechargeable NiMH Battery Pack
- 120 Volt AC Charging Port and Charging Adapter
- Tethered Protective Outlet Covers
- Electronic circuit protection prevents damage due to overload/ insufficient ventilation (overheat condition)
- Compact size, efficient and quiet

NOTE: Protective covers were removed for photography only. User must not remove cover.

Controls and Indicators



HOW THE POWER TO GO® WORKS

The POWER TO GO® is a power inverter with built-in batteries. A power inverter is an electronic device that converts low voltage DC (direct current) electricity from a battery to 115 volt AC (alternating current) household power. In designing this inverter, Black & Decker® has incorporated design techniques previously employed in computer power supplies. The result of these design innovations is a smaller, lighter and easier-to-use power inverter.

The POWER TO GO® Inverter converts power in two stages. The first stage is a DC-to-DC conversion process that raises the low voltage DC at the inverter input to 145 volts DC. The second stage is a MOSFET bridge stage that converts the high voltage DC into 115 volts, 60 Hz AC.

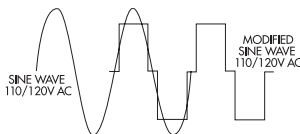
The DC-to-DC converter stage uses creative, high frequency, zero voltage switching power conversion techniques that replace the bulky transformers found in less technologically advanced models. The inverter stage uses advanced power MOSFET transistors in a full bridge configuration.

POWER TO GO® Inverter Output Waveform

The AC output waveform of this inverter is known as a modified sine wave. It is a stepped waveform that has characteristics similar to the sine wave shape of utility power. This type of waveform is suitable for most AC loads, including linear and switching power supplies used in electronic equipment, transformers, and small motors.

The modified sine wave produced by this inverter has an RMS (root mean square) voltage of 115 volts. Most AC voltmeters (both digital and analog) are sensitive to the average value of the waveform rather than the RMS value. They are calibrated for RMS voltage under the assumption that the waveform measured will be a pure sine wave. These meters will not correctly read the RMS voltage of a modified sine wave. Non-TRUE RMS meters will read about 20 to 30 volts low when measuring the output of this inverter. For accurate measurement of the output voltage of this unit, use a TRUE RMS reading voltmeter such as a Fluke 87, Fluke 8080A, Beckman 4410 or Triplett 4200.

115 Volt AC Output



CAUTION: TO REDUCE THE RISK OF PROPERTY DAMAGE:

- Certain rechargeable devices are designed to be charged by plugging them directly into an AC receptacle. These devices may damage the inverter or the charging circuit.
- When using a rechargeable device, monitor its temperature for the initial ten minutes of use to determine if it produces excessive heat. If excessive heat is produced, this indicates the device should not be used with this inverter.

OPERATING INSTRUCTIONS

Charging the POWER TO GO®

Attach the barrel tip of the AC Charging Adapter to the AC Charging Port of the POWER TO GO® and plug the standard two-prong plug into an appropriate, functioning 120 volt AC outlet. The red Battery Status LED Indicator will flash, indicating a proper connection has been made and the unit is charging. The green Battery Status LED Indicators will gradually light as the charge level rises. The POWER TO GO® must be charged for approximately 17-20 hours prior to first use.

All Battery Status LED indicators will be lit solid (the red indicator will stop flashing) when the unit is fully charged.

Operating the POWER TO GO®

Once fully charged (see “Charging the POWER TO GO®” in the previous section), turn on the CPI20XB by pressing the ON/OFF Pushbutton. Plug a USB and/or AC powered device into the unit.

The standard two-prong 115 Volt AC and USB Outlets allow the user to operate multiple devices simultaneously. Simply plug the equipment into the unit and operate normally.

Note: Ensure wattage of all equipment simultaneously plugged into the CPI20XB does not exceed 16 watts continuous.

120 Volt AC Outlet

1. Make sure the CPI20XB is properly charged. Turn the unit to the ON position. All Status LED Indicators will be lit solid, indicating proper operation of the unit and battery capacity.

2. Plug the (110/120 volt AC) appliance into the Inverter’s two-prong AC outlet and operate normally.

Note: The CPI20XB will not operate appliances and equipment that generate heat, such as hair dryers, electric blankets, microwave ovens and toasters.

USB Power Port

1. Make sure the CPI20XB is properly charged. Turn the unit to the ON position. All Status LED Indicators will be lit solid, indicating proper operation of the unit and battery capacity.

2. Plug the USB-powered device into the inverter’s USB Power Port and operate normally.

Note: The POWER TO GO’s USB Power Port does not support data communication. It only provides 5 volts/350mA DC power to an external USB-powered device.

Rated Versus Actual Current Draw of Equipment

Most electrical tools, appliances, electronic devices and audio/visual equipment have labels that indicate the power consumption in amps or watts. Be sure that the power consumption of the item to be operated is below 16 watts. If the

power consumption is rated in amps AC, simply multiply by the AC volts (115) to determine the wattage.

Resistive loads are the easiest for the inverter to run; however, it will not run larger resistive loads (such as electric stoves and heaters), which require far more wattage than the inverter can deliver. Inductive loads (such as TVs and stereos) require more current to operate than do resistive loads of the same wattage rating.

For safety reasons, the unit will simply shut down if it is overloaded. To restart the unit, simply remove the load. Then plug devices back into the inverter making certain that the total load does not exceed 16 watts continuous.

Protective Features

The inverter monitors the following conditions:

Low Battery Voltage – this condition is not harmful to the inverter but could damage the powered device, so the inverter automatically shuts down when the internal battery pack becomes low of charge. This will be indicated by a flashing red LED in the front panel before automatic shutdown of inverter.

Thermal Shutdown Protection – the unit will automatically shut down when the unit becomes overheated. Manual reset will be necessary after the unit cools down to restart unit.

Overload/Short Circuit Protection – the inverter will automatically shut down when a short circuit occurs. Manual reset will be necessary to restart unit.

Note: The Bi-color Inverter Status LED Indicator will light red to indicate Fault condition before automatic shutdown occurs.

OPERATING TIPS

The POWER TO GO® should only be operated in locations that are:

DRY – Do not allow water or other liquids to come into contact with the inverter.

COOL – Surrounding air temperature should be between -20°C and 40°C — ideally between 15°C and 25°C (60 – 80°F). Keep the inverter away from direct sunlight, when possible.

VENTILATED – Keep the area surrounding the inverter clear to ensure free air circulation around the unit. Do not place items on or over the inverter during operation. The unit will shut down if the internal temperature gets too hot. The inverter will auto-reset after it cools down. Do not use inverter in a pocket.

SAFE – Do not use the inverter near flammable materials or in any locations that may accumulate flammable fumes or gases. This is an electrical appliance that can briefly spark when electrical connections are made or broken.

CARE AND MAINTENANCE

Storage

1. Make sure that the 115 Volt AC and USB receptacle covers are functioning properly and are in the closed position covering the receptacles when storing the POWER TO GO®.
2. Ideal storage temperature range is 0-40°C (32-104°F).
3. Store and use the POWER TO GO® in a cool, dry place with adequate ventilation for all-around air circulation.
4. Avoid locations that are exposed to heating units, radiators, direct sunlight, or excessive humidity or dampness.

Battery Replacement

The battery should last the service life of the POWER TO GO®. Contact Technical Support toll free at (800) 544-6986 for any information you may need.

Safe Battery Disposal

The POWER TO GO® contains a nickel metal hydride rechargeable battery, which must be disposed of properly when it will no longer retain a charge. For information on recycling this battery, call toll-free (877) 822-8837.



⚠ WARNINGS: TO REDUCE THE RISK OF INJURY / EXPLOSION

- Do not dispose of batteries in fire as this may result in an explosion.
- Do not expose the unit containing a battery to fire or intense heat as it may explode.

TROUBLESHOOTING

Common Audio/Visual Problems

Problem: Buzzing Sound In Audio Systems

Some inexpensive stereo systems make a buzzing sound when operated from the inverter, because the power supply in the electronic device does not properly filter the modified sine wave produced by the inverter. The only solution to this problem is to use a sound system that has a higher quality power supply.

Fault LED Lights

When the Power/Fault LED changes from green (indicating the unit is powered and working properly) to red, a fault condition is present and the unit will automatically shut down. See "Protective Features" on page 10 and "Common Power Output Problems" in the section that follows.

TROUBLESHOOTING GUIDE

Common Power Output Problems – 115 Volt AC

Possible Cause

Red battery status LED indicator is flashing and there is no output

Battery Status LED indicators are all lit, but there is no output

Inverter sudden shutdown, Inverter Status LED is lit red and green Battery Status LEDs are lit

Inverter Status LED is lit red and green Battery Status LEDs are lit, but there is no AC power

LED indicators are off, unit may not be in the ON position

Unit shuts down after a few minutes, internal battery voltage is low

Recommendations

Unit is in charging mode. For optimum results, allow unit to complete charging cycle before using.

Charging is complete, disconnect charging adapter from unit and wall receptacle. Wait 5 minutes before using inverter.

Overload condition, reduce load to a maximum of 16 watts and attempt a manual reset

Unit shutdown from overload or fault condition, attempt manual reset and reduce load

Hold ON/OFF pushbutton for at least 1 second to turn unit ON

Internal battery pack needs recharging, refer to charging instructions on page 7

Common Power Output Problems – USB Outlet

Possible Cause

No power from USB port

Device connected to USB port is not charging

Recommendations

Hold ON/OFF Pushbutton for at least 1 second to turn unit on.

Be sure device can be charged through USB Port and current draw is not larger than 350 mA

For assistance with your product, visit our website www.blackanddecker.com for the location of the service center nearest you or call the BLACK & DECKER help line at 1-800-544-6986.

Accessories

Recommended accessories for use with your tool are available from your local dealer or authorized service center. If you need assistance regarding accessories, please call: **1-800-544-6986**.

⚠ WARNING: The use of any accessory not recommended for use with this tool could be hazardous.

Service Information

All Black & Decker Service Centers are staffed with trained personnel to provide customers with efficient and reliable power tool service. Whether you need technical advice, repair, or genuine factory replacement parts, contact the Black & Decker location nearest you. To find your local service location, refer to the yellow page directory under "Tools—Electric" or call: 1-800-544-6986 or visit www.blackanddecker.com

Full Two-Year Home Use Warranty

Black & Decker (U.S.) Inc. warrants this product for two years against any defects in material or workmanship. The defective product will be replaced or repaired at no charge in either of two ways.

The first, which will result in exchanges only, is to return the product to the retailer from whom it was purchased (provided that the store is a participating retailer). Returns should be made within the time period of the retailer's policy for exchanges (usually 30 to 90 days after the sale). Proof of purchase may be required. Please check with the retailer for their specific return policy regarding returns that are beyond the time set for exchanges.

The second option is to take or send the product (prepaid) to a Black & Decker owned or authorized Service Center for repair or replacement at our option. Proof of purchase may be required. Black & Decker owned and authorized Service Centers are listed under "Tools-Electric" in the yellow pages of the phone directory and on our website www.blackanddecker.com.

This warranty does not apply to accessories. This warranty gives you specific legal rights and you may have other rights which vary from state to state or province to province. Should you have any questions, contact the manager of your nearest Black & Decker Service Center. This product is not intended for commercial use.

FREE WARNING LABEL REPLACEMENT: If your warning labels become illegible or are missing, call 1-800-544-6986 for a free replacement.

SPECIFICATIONS

Input:	8.4 V DC, 5.0A
Inverter Output:	115 V AC, 60Hz, 20 watts for 5 minutes, 16 watts continuous
USB Output:	5 V DC (350mA)
Batteries:	1.2 AH NiMH

Imported by
Black & Decker (U.S.) Inc.,
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See 'Tools-Electric'
– Yellow Pages –
for Service & Sales



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